

ABSTRACT

Finite field multiplication of first and second Galois elements having  $n$  bit places and belonging to a Galois field  $GF(2^n)$  described by an irreducible polynomial is performed by forming an intermediate result  $Z$  of intermediate sums of partial products of bit width  $2n - 2$  in an addition part of a Galois multiplier. The intermediate result  $Z$  is processed in a reduction part of a Galois multiplier by modulo dividing by the irreducible polynomial, whereby after all XOR's are traversed a result  $E$  with  $n$  bits is computed.

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